

SECTION C

C-1 NSN/ITEM DESCRIPTION

PCR-M-004 MINESTRONE STEW, PACKAGED IN A FLEXIBLE POUCH, SHELF STABLE

Each component is consumed by combat personnel under worldwide environmental extremes as part of an operational ration, and is a source of nutritional intake. It is essential that this item be produced in accordance with good commercial practice to attain high standards of appearance, odor, flavor, and texture so that high levels of troop acceptance are achieved.

C-2 PERFORMANCE REQUIREMENTS

A. Production standard. A sample shall be subjected to first article or product demonstration model inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements document.

B. Commercial sterility. The packaged food shall be processed until commercially sterile.

C. Shelf life. The packaged food shall meet the minimum shelf life requirement of 36 months at 80°F.

D. Appearance.

(1) Pasta. The pasta shall be enriched, small shell pasta. The pasta shells shall be intact, distinct, and separate. The pasta shall be off white to pale tan in color.

(2) Kidney beans. The whole intact kidney beans shall be a reddish brown color.

(3) Vegetables. The vegetables shall be an evenly distributed mix of at least three of the following: peas, corn, carrots, or green beans. The vegetables shall have a characteristic color and shall be discernible pieces.

(4) Sauce. The sauce shall be translucent and a pale reddish tan color. The sauce shall contain tomato pieces and small flecks of herbs and spices. There shall be free sauce.

(5) General. The finished product shall be a uniform mixture of small shell pasta, kidney beans, tomato pieces, and a variety of vegetables in a tomato based sauce with flecks of herbs. The packaged food shall be free from foreign materials such as but not limited to dirt, insect parts, hair, glass, wood or metal.

E. Odor and flavor.

(1) General. The packaged food shall have an odor and flavor characteristic of cooked minestrone stew. The sauce shall be slightly astringent and have a mild cooked tomato flavor with Italian seasonings and spices.

(2) Foreign. The packaged food shall be free from foreign odors and flavors such as, but not limited to, burnt, scorched, rancid, sour, stale, musty or moldy.

F. Texture.

(1) Pasta. The cooked pasta shall be slightly soft to slightly firm.

(2) Vegetables. The vegetables shall be slightly soft to slightly firm.

(3) Sauce. The sauce shall be smooth and moderately thin.

G. Weight.

(1) Net weight. The average net weight shall be not less than 8.0 ounces. No individual pouch shall contain less than 7.5 ounces.

(2) Drained weight. The average drained weight of the pasta and vegetables (combined) shall be not less than 5.3 ounces. The drained weight of pasta and vegetables (combined) in an individual pouch shall be not less than 5.0 ounces.

H. Palatability. The finished product shall be equal to or better than the approved first article when applicable, or other approved model, in palatability and overall appearance.

* I. Nutrient content.

(1) Fat content. The fat content shall be not greater than 1.0 percent.

(2) Salt content. The salt content shall be not greater than 1.0 percent.

J. Vegetarian requirements. This product shall contain no ingredients, major or trace, and/or processing aids derived from the flesh, skin, blood, entrails, or bones of animals. This includes, but is not limited to oils, fats, fatty acids and their esters (palmitic, stearic, oleic, and pelargonic acids), flavorings, gelling agents, coagulants, (rennet derived from calves or pepsin derived from swine which are used in cheese manufacture), binders, emulsifiers (mono/di-glycerides, sodium or magnesium stearate, polysorbate, sorbitans, monostearate, glycerine), fatty alcohol, aldehydes and ketones, lactones, glycerol, amino acids, hydrolyzed proteins, enzymes, and enzyme modified products. Furthermore, these products shall contain no ethyl alcohol or ingredients derived from or containing ethyl alcohol. Milk and eggs, and ingredients derived from them such as yogurt or cheese (produced without animal based rennet or pepsin), are allowed.

C-3 MISCELLANEOUS INFORMATION

THE FOLLOWING LIST OF INGREDIENTS IS PROVIDED FOR INFORMATION ONLY AND IS NOT A MANDATORY CONTRACT REQUIREMENT.

A. Ingredients. Water, tomatoes, enriched macaroni, (semolina, water, egg white, niacin, ferrous sulfate, thiamin mononitrate, riboflavin, folate) peas, kidney beans, green beans, carrots, celery, onion, tomato paste, food starch-modified with erythorbic acid added, salt, spices, parsley flakes and garlic powder.

SECTION D

D-1 PACKAGING

Product shall be filled into pouches and each pouch shall be packed in a carton in accordance with MIL-PRF-44073, Packaging of Food in Flexible Pouches.

D-2 LABELING

A. Pouches. Each pouch shall be clearly printed or stamped, in a manner that does not damage the pouch, with permanent black ink or any other contrasting color, which is free of carcinogenic elements. Prior to thermal processing of the pouches, the product name,

lot number and filling equipment number shall be applied. All other marking may be applied before or after thermal processing.

- (1) Product name (not less than 1/8 inch high). Commonly used abbreviations may be used when authorized by the inspection agency.

- (2) Pouch code includes: 1/

Lot Number
Filling equipment identification number
Official establishment number (for example, EST-38)
Retort identification number
Retort cook number

1/ The lot number shall be expressed as a four digit Julian code. The first digit shall indicate the year of production and the next three digits shall indicate the day of the year (Example, 16 December 2002 would be coded as 2350). The Julian code shall represent the day the product was packaged into the pouch and processed. Sub-lotting (when used) shall be represented by an alpha character immediately following the four digit Julian code. Following the four digit Julian code and the alpha character (when used), the other required code information shall be printed in the sequence as listed above

B. Cartons.

- (1) The cartons shall be clearly printed on one of the largest panels with permanent black ink as follows:

Product name (7/32 to 9/32 inch block letters)
Ingredients
Net weight
Name and address of packer
Code (same as pouch code, see pouches) 1/ 2/
USDA official inspection legend for the packer's plant
"Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA/USDA regulations

1/ Code may be ink printed on any outside carton panel. Code may be embossed on any outside carton panel except the largest panels of the carton.

2/ Official establishment number not required in carton code.

- (2) Military nutrition information entitled "Military Rations Are Good Performance Meals" shall be printed on the entrée cartons large panel opposite to the panel printed with the data in D-2, B,(1) above. The information, provided by the contracting officer, shall be clearly printed with permanent black ink in an area no smaller than **3-3/4 inches by 5-3/4 inches.**

D-3 PACKING

A. Packing for shipment to ration assembler. Seventy-two pouches (of the same product) in cartons shall be packed flat or on edge in a snug-fitting fiberboard shipping container conforming to style RSC, type CF, class domestic, grade 200 of ASTM D 5118, Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers.



D-4 MARKING

A. Shipping containers. Shipping containers shall be marked in accordance with DPSC Form 3556, Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

Inspection for packaging, labeling and packing, and marking shall be in accordance with the Quality Assurance Provisions and Packaging Requirements for MIL-PRF-44073.

E-6 QUALITY ASSURANCE PROVISIONS(PRODUCT)

Definitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

Quality Assurance Provisions.

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required.

A. Classification of inspections. The inspection requirements specified herein are classified as follows:

(1) Production standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this Performance-based Contract Requirements document and evaluated for overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection.

(2) Conformance inspection. Conformance inspection shall include the product examination and the methods of inspection cited in this section.

* B. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQC Z1.4 - 1993. The lot size shall be expressed in pouches. The sample unit shall be the contents of one pouch. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 4.0 for minor defects. Defects and defect classifications are listed in Table I. For drained weight inspection, a separate set of pouches shall be selected from the lot using the same sampling criteria as above. The pouches shall be immersed in 140°F to 190°F water for 10 minutes prior to the drained weight inspection.

TABLE I. Product defects 1/ 2/ 3/

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Appearance</u>
101		Product not a uniform mixture of pasta and mixed vegetables in sauce as specified
	201	Pasta not a small shell type <u>4/</u>
	202	Pasta shells not intact, distinct, or separate
	203	Color of pasta not off white to pale tan
	204	Color of sauce not a reddish tan colored
	205	Color of vegetables not as specified
	206	Vegetables pieces not discernible
	207	Product does not contain an evenly distributed mix of at least three kinds of vegetables
		<u>Odor and flavor</u>
102		Odor or flavor not of cooked pasta and vegetables in a sauce with Italian seasonings
		<u>Texture</u>
	208	Pasta not slightly soft to slightly firm
	209	Vegetables not slightly soft to slightly firm
	210	Sauce not smooth or not moderately thin
	211	No evidence of free sauce
		<u>Weight</u>
	212	Net weight of an individual pouch less than 7.5 ounces <u>5/</u>
	213	Drained weight of the pasta and vegetables (combined) in an individual pouch less than 5.0 ounces <u>6/</u>

1/ Presence of any foreign material such as, but not limited to dirt, insect parts, hair, glass, wood or metal, or foreign odors and flavors such as, but not limited to burnt, scorched, rancid, sour, or stale shall be cause for rejection of the lot.

2/ Finished product not equal to or better than the approved first article, when applicable, or other approved model in palatability and overall appearance shall be cause for rejection of the lot.

3/ Product not verified by a certificate of conformance as meeting the vegetarian requirements shall be cause for rejection of the lot.

4/ Verification of the enriched macaroni product shall be with the statement of ingredients on the label.

5/ If the sample average net weight is less than 8.0 ounces, the lot shall be rejected.

6/ If the sample average drained weight of the pasta and vegetables (combined) is less than 5.3 ounces, the lot shall be rejected.

C. Methods of inspection.

(1) Commercial sterility. Testing for commercial sterility shall be in accordance with MIL-PRF-44073.

(2) Shelf life. Compliance with shelf life shall be determined by incubation for 1 month at 120°F or 6 months at 100°F or 36 months at 80°F. Contractor shall provide a certificate of conformance.

(3) Net weight. The net weight of the filled and sealed pouches shall be determined by weighing each sample on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest 0.1 ounce.

(4) Drained weight. The pouch contents shall be poured into a flat-bottom container. A minimum of three times the pouch's volume of 180°F to 190°F water shall be added to the container so as to cover the contents. The contents and water shall be gently agitated without breaking the pasta and vegetables. The contents shall then be poured into a U.S. Standard No. 7 sieve in a manner that will distribute the product over the sieve without breaking the pasta or vegetables. The sieve area shall be such that the distributed product does not completely cover all the openings of the sieve. The sieve shall be tilted at approximately a 45° angle and allowed to drain for 2 minutes before determining the drained weight by subtracting the sieve tare weight from the gross weight. The drained weight shall be reported to the nearest 0.1 ounce.

* (5) Nutrient content. The sample to be analyzed shall be a composite of eight filled and sealed pouches, which have been selected at random from the lot. The composited sample shall be prepared (see Note) and analyzed for fat content and salt content in accordance with the following methods of the Official Methods of Analysis of AOAC International:

<u>Test</u>	<u>Method Number</u>
Fat	960.39, 985.15
Salt	935.47

Test results shall be reported to the nearest 0.1 percent. Any result not conforming to the requirements specified in Section C of this Performance-based Contract Requirements document shall be cause for rejection of the lot.

NOTE: The USDA will use AOAC method 983.18 for preparation of the sample.

E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS)

A. Packaging and labeling.

(1) Pouch material testing. The pouch material shall be examined for the characteristics listed in table I of MIL-PRF-44073. The lot size, sample unit, and inspection level criteria for each of the test characteristics are listed below. Any test failure shall be classified as a major defect.

Characteristic	Lot size expressed in	Sample unit	Inspection level
Oxygen transmission rate	yards	1/2 yard	S-1
Water vapor transmission rate	yards	1/2 yard	S-1
Camouflage	yards	1/2 yard	S-1
Thermal processing	pouches	1 pouch	S-2
Environmental conditions	pouches	1 pouch	S-2

(2) Pouch examination. The pouches shall be examined for the defects listed in table II of MIL-PRF-44073. The lot size shall be expressed in pouches. The sample unit shall be one thermal processed pouch. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major A defects, 2.5 for major B defects, and 4.0 for minor defects. Two hundred sample units shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

(3) Examination of pouch and carton assembly. The completed pouch and carton assemblies shall be examined for the defects listed in table III of MIL-PRF-44073. The lot size shall be expressed in units of completed assemblies. The sample unit shall be one pouch and carton assembly. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects. Fifty sample pouch and carton assemblies shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

B. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table II below. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

TABLE II. Shipping container and marking defects

Category	Defect
<u>Major</u>	<u>Minor</u>
101	Marking omitted, incorrect, illegible, or improper size, location sequence or method of application.
102	Inadequate workmanship. <u>1</u> /
201	Contents more or less than specified.

1/ Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, inadequate stapling, improper taping, or bulged or distorted container.

SECTION J REFERENCE DOCUMENTS

MILITARY SPECIFICATION

MIL-PRF-44073 - Packaging of Food in Flexible Pouches

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQCZ1.4-1993 - Sampling Procedures and Tables for Inspection by Attributes

PCR-M-004
October 2, 1998
W/CHANGE 01 16 December 2002

AOAC INTERNATIONAL

Official Methods of Analysis of the AOAC International

AMSSB-RCF-F(N) (Richards/5037)
16 December 2002

TO: DSCP-HRAC (Galligan/8030)

SUBJECT: ES03-027, (DSCP-SS-03-00858), DSCP Contract, SPO300-D-Z105, Request change to labeling requirement in Beans, Western; PCR-C-045, Clam Chowder, New England Style; PCR-M-009, Macaroni and Cheese, Mexican Style; PCR-M-004, Minestrone Stew; PCR-P-011, Potatoes, Mashed; PCR-R-007, Refried Beans; PCR-R-001, Rice.

1. Date received: 26 November 2002
Date due: 11 December 2002
Date replied: 16 December 2002

2. The Natick Soldier Center (NSC) recommends the following change to the subject PCRs for use in all current, pending and future procurements until the document is formally amended or revised:

Section D:

Para D-2B. (2), in last line, after "smaller than" delete "4-1/4 inches by 6-3/4 inches" and substitute "3-3/4 inches by 5-3/4 inches"

3. See attached revised PCRs.

4. POC for this action is Mr. Peter Sherman x4062 or Mr. Allen Richards, X5037.

DONALD A. HAMLIN
Team Leader
DoD Food Engineering
Services Team

(ARichards)

CF: NSC:

Acheson	Sherman
Alyward	Trottier
Friel	Valvano
Hamlin	
Hill	
Konrady A.	
Richards	

CF: DSCP & SVCs:

Anthony	Kavanagh
Arthur	Lowry
Beward	Malason
Charette	Richardson H.
Ferrante	Salerno
Galligan	
Hoffman	